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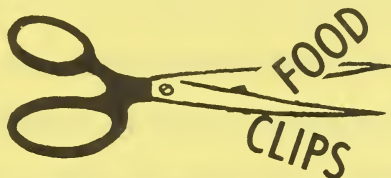




# Food and Home Notes

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Sift no more. Generally speaking, there is no more need to sift flour because all-purpose and cake flour are finely milled, according to the U.S. Department of Agriculture's Agricultural Research Service.

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Whole-wheat or graham flour is milled from the whole kernel and contains all the B-vitamins, iron and other nutrients naturally present in wheat.

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Trim leafy vegetables, lettuce and cabbage sparingly. The dark outer leaves are especially rich in nutrients. Remove woody midribs from kale leaves--there is little nutritive loss and the kale cooks more uniformly.

\* \* \*

Mix well--fat should be mixed thoroughly for cake baking. Thorough mixing divides the fat into fine particles to give the desired tenderness.

\* \* \*

Should dry yeast be stored in the refrigerator? No, but it should be stored in a dry cool place--it may be stored for several months under those conditions normally.

## CONDENSATION

### Preventions and Solutions

Preventing condensation problems is a better idea than trying to find a solution after the problem is out of hand. First signs of spring may include dark stains on house siding and blistered peeling paint. Often this is an indication of a cold weather (average temperature 35 or lower) condensation problem. Condensation caused by high humidities often results in inconvenience and in some cases excessive maintenance costs, according to researchers at the Forest Products Laboratory, U.S. Department of Agriculture's Forest Service.

First, you must understand condensation will take place anytime the temperature drops below dewpoint (100 percent saturation of the air with water vapor). Commonly, under such conditions, some surface accessible to the moisture in the air is cooler than the dewpoint and the moisture condenses on that surface.

There are many inexpensive methods of preventing condensation problems--usually they involve the proper use of vapor barriers and good ventilating practices. Proper construction details during planning of the house are by far the most important consideration. A publication on Condensation Problems, Research Paper FPL..132 is available from the Forest Products Laboratory, Forest Service, USDA, Madison, Wisconsin 53705.

A student in Yale University's dining hall eats a main course of "soybean steak." An Illinois industrial firm advertises a soybean product "that looks, tastes, and feels just like meat in stews, patties, and chili...yet handles as conveniently as a dry ingredient until you're ready to use it." As far away as Mozambique, Africa, a woman stirs water into a soybean powder to add protein to her family's meat-short meals.

The U.S. Department of Agriculture's Economic Research Service (ERS) sees soybeans beginning a major role in supplying protein for humans, possibly replacing meat in some products. The world's largest soybean producer, the United States may benefit substantially from this international market.

ERS economists estimate about 85 percent of U.S. soybean meal is fed to livestock, 10 percent is exported, four percent goes into industrial uses. Less than one percent goes into human food. Utilization of exported soybeans and meal--80 percent of world exports come from the U.S.--is not much different: Most goes to animals.

However, ERS predicts that more meal will be used in food products, as substitutes or additives in the future. ERS specialists point to soy protein-based foods as a most promising area of research.

Protein in vegetables is not normally of the quality or quantity found in animal products. But with sophisticated methods of extraction and handling, and with additives to fortify them, vegetable proteins can help overcome nutritional deficiency where animal protein is either scarce or too costly, according to ERS economists.

Soybean products can be added to meats to extend them, or can be made into meat substitutes called analogs. Extenders, which generally require less processing than analogs, consist of processed soybean meal in the form of flour and grits, concentrate or isolate. For a soybean product to substitute partly or wholly for meat it must go through an additional step--texturing--to give it strength to withstand cooking and processing. Texturing is also needed when large amounts of soy protein are used as extenders.



A different use of soybeans is in Vitabeen, a soybean beverage made in Singapore, designed for the taste some orientals may have for soy products.

USDA donates a food blend containing soybeans (corn, soya, milk) to developing countries. And prompted by the successful experiences of foreign firms, U.S. industry is becoming increasingly involved in production and marketing of soy protein products.

In the U.S. where we utilize about half of all soybeans and soybean products we produce, ERS researchers predict the big push will be toward use of more soy extenders. Low in cost, they can be added to processed meat products. Not only do they cost less than meat, they also reduce cooking losses because soy product absorbs water and fat that cook out of meat. In 1971, USDA permitted use of up to 30 percent soy extenders to protein requirements of some school lunches. The extenders are also showing up more in restaurant and institutional meals.

With soy analogs, however, it's a different story. Analogs, with names like "soybean steak," are close to the flavor and texture of meats they imitate. However, they cost about the same as meat. Another hurdle is acceptance: It took margarine a long time to make substantial inroads into the butter market.

The same could be true of analogs, though they share with margarine a possible dietary advantage; low saturated fat content. Foods made with textured vegetable protein contain virtually no cholesterol and are low in fats some medical experts associate with cardiovascular disease.

Whatever may be the future of analogs, ERS economists predict soy extenders could replace 10 to 20 percent of meat in processed items by 1980. They may find increased use in sausage, hamburger, luncheon meat, hot dogs, certain frozen dinners, and canned products.

But even with soybeans turning up in more and more places, meat producers need not worry. In spite of the surge in soybean use, ERS predicts that by 1980 we will still need 20 percent more beef than at present.

## (cont) Soybeans

In texturing, soybeans first are ground into a flour about 50 percent protein. Further processing filters out hard-to-digest carbohydrates and produces soy isolate --powder more than 90 percent protein. Isolate is mixed with an alkaline liquid to form a solution then fed under pressure to "spinning" machines, in a process similar to that used to spin rayon and nylon. Solution is forced through a die containing some 15,000 tiny holes, each about four-thousandths of an inch in diameter. The result is 15,000 jets, streaming into an acid solution that congeals them into separate, pale gold threads of protein; tasteless, odorless, closely resembling taffy in texture, and charged with nutritional value.

Another texturing process, simpler and cheaper than spinning, is called extrusion. It uses the flour, rather than isolate, as a base.

Textured soybeans emerge as TVP--textured vegetable protein--which can imitate virtually every meat product and many food products depending on how it is colored, flavored, shaped and cooked.

"Imagine a basic food," reads a trade magazine ad, "so versatile it can be made to resemble either crisp bits of bacon or diced, dehydrated red and green bell peppers. Imagine what you can create with a food that actually replaces the clam in clam dip or the flakes of tuna in tuna casserole."

ERS researchers agree TVP is versatile but say meat substitutes may be somewhat lower than beef in one or more amino acids. A better amino acid balance may be obtained by adding amino acids from other sources, such as vegetable proteins, or meat or other animal materials.

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### COMMENTS & INQUIRIES TO:

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